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CURIOSITIES OF HORTICULTURE.

BY THE AUTHOR OF "TEN ACRES ENOUGH."

It is one of the curious facts observable by practical horticulturists, that while a prodigious increase has been given to the production of every description of fruit, the price for whatever may be brought to market has been steadily advancing. Consumers have undoubtedly had some suspicion of the same remarkable fact. It would seem that the demand must be increasing faster than the supply, or these advancing prices could not be maintained. It would probably be difficult to account with precision for this state of things; but the fact is evident to all producers, that the more freely the great public is supplied with fruit the more it will consume.

There is reason why this should be the case with every luxury that comes before the public. Thirty years ago, the now daily summer indulgence in ice cream was almost unknown. It was manufactured as a rarity in only one or two aristocratic confectionaries in each of the great cities, where it was retailed in small wine glasses, at twenty-five cents. One had to walk many blocks to reach the places where it was sold. It was rarely seen at even weddings, because of its absurd price; and for years continued to be a sort of sealed luxury, in which the masses could not indulge, because they were unable to obtain even a taste of it.

But time has long since bravely changed the case. As the secret of its manufacture became known, so the imported luxury was spread before the public at a thousand new depositories. Their taste became educated to understand and appreciate it. The consumption became enormous, though cheaper processes were invented for producing it, until now, at less than half the price it yields a better profit to the maker than before. There are great farms around Philadelphia, which formerly produced from one to three hundred pounds of butter weekly, which for years past have not sent a single ounce to market. All the milk they yielded has been converted into ice cream. Invention

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came in to stimulate indulgence in the new luxury. Numberless machines were patented for producing it so readily and cheaply that in multitudes of private families the ice cream freezer has become as indispensable as the coffee mill.

This process of educating the public taste for superior fruits has also been going on for many years, producing, in some respects, equivalent results. The two most prominent ones are a vast production, and an increase of price. The steam engine has been applied to the manufacture of ice cream, and ingenious restaurateurs have adulterated the product by the infusion of cheap ingredients, by which the public appetite is so far satisfied as to keep up the consumption. But no engine can multiply or ripen the peach or pear crop, or add a single bushel to the product of an acre of strawberries. It is to nature alone that we are indebted for the flavor of all these exquisite fruits. Human skill and assiduity may increase the quantity, and to accomplish this is the peculiar province of horticulture. But demand evidently keeps pace with production. It must even exceed it, or prices would not so steadily rise. Twenty years ago strawberries could be purchased at eight cents a quart. Few persons produced them, perhaps no one cultivator had as much as an acre devoted to them. The masses never saw or tasted them. But in twenty years horticulture, all the world over, has made gigantic progress toward ranking among the exact sciences. Its devotees have discovered and introduced multitudes of new and valuable fruits, while other enthusiasts have originated new grapes, new raspberries, new strawberries. The two latter have been distinguished for their immense productiveness. This prime recommendation to the strawberry has placed it within reach of the masses, and they, ever ready to appreciate a valuable fruit when made acceptable to them, have so enlarged the demand that he who now can boast of only one acre, is considered as among the moderate class of cultivators. It is an extraordinary incident of this condition of things that prices should continue to advance. But the fact is undeniable that strawberries now sell for three to four times as much as they did twenty years ago. It may be evidence of increasing wealth among our people, or only one phase of the national extravagance. But it holds out to the careful horticulturist the surest promise of abundant pecuniary reward.

Should these horticultural reminiscences be extended, the same general result will be recognized,—a rise in prices. Take the pear as another illustration. Until within a few years one never heard of them selling at a shilling to twenty-five cents each.—What is most remarkable of all is that these prices must be given by the masses, not exclusively by the wealthy, as this fruit thus labelled and exposed for sale at the street corners, is there purchased by the wayfaring crowd. Grapes also, come in as sharers in this extraordinary harvest. A dollar a pound is the common price for unlimited quantities of the choicest varieties.

There is a corollary from these facts which may be of value to many. I omit all urgency touching the planting of new vineyards and orchards, and will refer only to the recuperation of such as have been many years established. There must be a mine of wealth in some of these of which their neglectful owners do not dream. I was last week upon a farm, situated in the best fruit-growing region in New Jersey, which, thirty years ago, had been used as a nursery. The nurseryman had long since retired from business, having made a comfortable fortune, and the farm had passed through a succession of owners, only one of whom appeared to have left behind him any evidence of horticultural taste. He had built an extensive cold grapery, and stocked it with the choicest foreign vines, whose products never fail to command the highest prices. But like all his predecessors, he in turn had sold and moved away, giving place to one who considered the raising of sweet corn and pickles the chief end

of man. The grapery, in his view, was an incumbrance, but as it would cost money to remove it, it was permitted to stand. The walls were falling to pieces, the sashes had here and there slipped down from their proper places, while hundreds of the lights were broken, and the interior was used as a chicken roost. But there stood the grape-vines, bursting into bloom, and giving evidence, in the shape of numberless blossoms, that they were yet in full vigor. Happily the farm had again changed owners, this time falling into possession of a gentleman who mourned as deeply as myself over the neglect of this precious grapery, and who, aware of its capabilities, intends to turn to good account the labors of his predecessor. The vines were not only planted to his hands, but were in the prime of bearing, and he had thus a ten year's start in his grape crop.

But mementoes of the taste and foresight of the nurseryman who once owned the farm, were abundant in the fields. There were old apple trees in profusion, with nearly a hundred pear trees of superior varieties, vigorous of growth, but utterly neglected, and reported as yielding small crops of indifferent fruit. The out-going seller of the farm had intended to cut them down. He knew the market value of pickles, but the pear culture was a sealed book. The buyer, educated in a different school, believed that there was yet a high money value in these trees, and that they could be resuscitated. We stood among them and debated the question. He thought that here was a foundation to begin upon, and that an investment of money in reviving them would yield a far quicker return than in waiting for the product of a newly planted orchard. Among other facts and experiences, reference was made to the memorable account recorded in this journal, nearly twenty years ago, of the complete renovation of two outcast pear trees. Like all these, they had once borne excellent crops of fruit, but for several years had produced only worthless specimens. The owner was told that the trees—for there were several in like condition—had exhausted the proper element in the soil, and that it must be re-introduced by artificial means. That autumn he carried out the suggestion, and scraped off all the rough outer bark from two trees, then coated them with soft soap, cut out about one-third of all the poorest branches, and shortened the head of the tree one third by cutting back the principal limbs, paring the wounds and covering them with the shellac solution.

This preparation being made, a trench was dug around each tree, three feet from the same, four feet wide and twenty inches deep, the soil being carted away. In making this trench, about a third of the roots were cut away. The trench was then filled with soil from a good pasture field, there being added at the time of filling, two bushels of refuse scoriæ from a blacksmith's forge, two of well broken charcoal, and two pounds of pulverised potash. All these were thoroughly intermingled after the trench had been filled, by frequent overturnings with the spade.

The result of this cheap and simple operation was manifest the following summer. The luxuriance and vigor of the foliage were surprising, for the newly formed roots were wandering into fresh and wholesome pasture. The next year there was a moderate bloom, but every blossom produced fruit. The third season there was a fine crop, the two trees producing six bushels of superb fruit. It was convincing evidence that the failure of old established pear trees to produce good crops is owing to a want of proper nutriment in the soil, and that instead of cutting them down when they cease to bear, they should be taken in hand and renovated. Such was the determination of the new owner of the farm referred to. He looked at these trees as money-making machines, capable, when renovated, of producing at least two hundred bushels annually, which, at current prices, would pay enormously for the cost of securing them. The example should have its weight with

the many who have apparently superannuated orchards. It is evidently not the trees that are exhausted, but the soil in which they are growing. The choice fruits have now so high a market value, that few investments can be made to pay so well. If the planting of a new orchard be a work of skill or merit, that of renovating a barren one is infinitely more so.

FLOWERS IN MASSES.

BY EDWARD S. RAND, JR.

The last few years have worked a great change in the mode of growing flowers. Formerly it was the individual plant or flower, which it was the aim and study of the gardener to produce, now the general effect is the great end to be attained, and to produce this result flowers are grown in masses. While thus much is lost in symmetry and individual beauty, much is gained by imposing and attractive combinations. There are many plants which individually are insignificant, which in masses show to great advantage. Nor is this the case with plants of humble growth alone, as might be supposed; many of our plants of stateliest habit look better in masses than as specimens, because the one covers and conceals the defects of the other, and a dozen plants may appear as one of fine proportions and great size.

We would by no means discourage the growing of plants as specimens;—we mean in the garden, for in the present article, we have no reference to green-house culture—it is only thus that the fullest beauty of the plant can be developed. A single plant grown where it can receive light and air, equally on every side, where every lateral bud has every opportunity to break into a branch, and each little axillary bud can freely send forth its shoot of foliage or bloom; where the terminal shoot receives unshaded its daily meed of sunshine, and its nightly bath of dew, will develope the true habit of the plant, whatever that may be. In many cases all the gardener's science can do nothing to assist nature; the plant is well proportioned and elegant, but often the natural habit of the plant is bad, and upon such the skill of the gardener produces wonderful improvements. Some plants have a strong tendency to run at once to a head of bloom, to ripen the seed and die. A judicious pinching in of the young plant will give many heads of bloom, and convert what is naturally an awkward straggling plant into a neat and well proportioned specimen. Such plants are more pleasing to the eye of both the careful and careless observer.

While it may be a matter of interest to the botanist to know the natural habit of a plant, it is not for the gardener to allow plants to follow their nature if thus the most pleasing effects are not produced.

There are many plants which, grown as specimens, are of a stately and symmetrical habit, and singly are effective either in the garden or the landscape. These, unless a grand effect is to be produced on a large plantation, should not be grown in masses. Others again, as we have said, singly are insignificant, but in masses are effective.

It is a fact to be deplored that so large a proportion of those around us go through life with eyes shut to the beauty of nature. A little flower endowed with a delicacy which should point the most careless to the divine Creator, tinged with colors which no art of man can imitate, and framed with adaptations which no human power can create, is trodden under foot unnoticed and uncared for. It is only when masses of these simple flowers combine their beau-

ties, and display them with such effect that none but the blind can fail to notice them, that they attract the attention they merit.

In massing flowers however, much attention must be paid to the location of the display. A small garden would lose the grace and beauty which constitute its charm, if over-stocked with huge masses of flowers, while the flowers suitable for a garden would be lost if grown upon a lawn, or in avenue or woodland beds. We must study the size of the place to be adorned, and choose our plants accordingly, that all may conform to the general design, and that bizarre effects may be avoided. Yet it is impossible to make all conform to one standard; what to one will seem elegant, to another seems out of place, or insignificant. As the old copy book hath it, "many men of many minds," and each will plant his own domain according to his own ideas, though those who produce at home the most bizarre effects are often the first to find fault with others, and also those most likely to admire a place laid out and planted in accordance with the true principles of taste.

The object of our article is to call general attention to the effects which may be produced by growing plants in masses; to give a few general directions for their culture, and a selection of plants best adapted for this mode of growth.

In England, a peculiar kind of planting called "ribbon planting," has become very popular. It consists merely in planting low growing plants in narrow winding lines or belts, so that the various colored flowers or variegated leaves contrast prettily, often forming a belt with stripes of different colors. In this country it has not been attempted on a large scale, to our knowledge, and it is a question whether our hot summer sun would not, by drying up the plants, much impair the general effect. As a border for a narrow winding walk, such a design well carried out would produce a charming effect, which would be greatly increased if the path rose up a gentle slope and was seen from a distance. It is the passion for this style of gardening that has caused so great a demand for plants of dwarf growth, and for those with variegated foliage.

It is evident that to produce the effect, the plants must be of one height. If the habit of the plant will not give us this, the care of the gardener must be called into requisition. For a simple illustration, what a pretty effect would be produced by a long line of the variegated Alyssum, with a line of the same width of Scarlet Portulacca edging a border of closely shaven grass.

The general rules for growing plants in masses are very simple. In the first place the habit of the plant must be considered, —we must not oppose nature; to make a tall plant from a dwarf, or to reverse the operation, though such things are successfully done, is by no means to be attempted on a large scale. In a green-house this may be done, but if we try the operation upon a mass of plants we must sacrifice either the grace of the plant, or our hopes of bloom. To illustrate, a bed of Portulacca is one of the finest ornaments for a lawn or level grass plat, but in a wood or shrubbery, it would be out of place, and be entirely uneffective. A group of Indian Shot (Canna) or Castor Oil Bean (Ricinus) would be in too marked contrast to a small grass plat; but the same in a large lawn would produce a stately and imposing effect.

Again, plenty of room should be afforded for the development of the plants. Nothing is ever gained by crowding, even if a better effect is produced for a few weeks in early spring. The result will be small foliage and sparse or under-sized bloom during the summer and autumn. (We speak now of plants bedded out).

The general tendency is to crowd the plants. When in the spring we set out a little cutting from a thumb pot, it hardly seems possible that the growth of a few months will give us a plant inconveniently

large for repotting, and so no room is allowed for growth. The distance to be left between plants must depend entirely upon their habit and size in perfection. The end to be attained is that the plants may present a mass of foliage, with no unsightly spaces, and no crowding. Some plants may be allowed to run into and over each other, of which we may mention Verbenas, Heliotrope, Portulacca, Tropaeolum, and as a general rule all plants of trailing and creeping habit. Others of tall, erect growth must be planted very close in order to produce a good effect, as Gladiolus, Japan and other lilies, Tiger flowers, and plants of kindred habit. Others again should be planted far apart, the exact distance being regulated by the size of the individual plants. These are generally plants of tall habit, with large spreading foliage, such as Cannas, Ricinus, and generally bedding plants of some shrubby nature. Others should be planted so the leaves will just touch the leaves of the next plants, thus covering the ground. This treatment is suitable for plants forming a dense crown of foliage which seldom rises more than a foot from the ground, the flowers being produced on tall stalks rising from the mass of leaves, such as Yuccas, Tritomas, Pampas Grass, (Gynerium Argenteum). But give as many rules as we may, so various are the plants used, and such the differences in growth, which different situations or exposures may produce, the great responsibility in each case must be left to the good sense and taste of the planter.

The soil for plants grown in masses should generally be rich, in order to produce large healthy foliage; it should be deep, that the plants may not suffer from drought, as nothing looks worse than small sickly foliage. Tropaeolum and some kindred plants do better in a poor shallow soil, for otherwise, they run all to foliage and produce no bloom. The shape of the beds should be round or oval, both for effect and for greater convenience in keeping the grass edging in order. Our mode of preparing beds for massing, has been thus: After the autumn work of the garden is finished, the frost having killed the flowers, we select the site of the beds in the lawn or some suitable grass-plat, or woodland glade; carefully cut out the bed of the required size, which must be regulated by the habit of the plants we intend to use: a good size for a round bed, if to be viewed at a distance and to be filled with tall plants, is five feet in diameter; carefully remove the sod, leaving a clean edge on the bed; excavate the bed three to four feet deep, keeping the loam in one pile, the sods in another, and carrying away all stones, gravel or hard clay subsoil; if there is any sand excavated, retain a portion for future use in the compost for filling the bed. If the subsoil is clay, fill in six to ten inches of small stones to afford good drainage, for many perennial plants and all bulbs are very impatient of damp or standing water about the roots. A neglect of this precaution causes much disappointment in the culture of bulbs; if the subsoil is sand or gravel, no drainage is necessary. Prepare a compost of one part loam, one part peat, one part well rotted manure and one half part each of fine sand and leaf mould. Fill the bed in with this compost, well mixed together but not pulverized, raising the centre about six inches above the sides and sloping all round to the upper edge of the grass. If the bed is not to be planted until spring, pile in the compost loosely, somewhat higher than needed, and leave all for the frost to act upon it and to settle during the winter; in the spring fork all well over before planting. If the planting is to be done immediately, leave all a few days to settle, then fork over, rake and plant. A bed like this will last for years, only requiring a light top-dressing of fine manure in the autumn, which should be left on all winter and carefully forked in early in spring; we have often found it beneficial to spread a thick covering of leaves over the bed in autumn, over these put the manure and fork all over in spring. A bed for bulbs

prepared in this way will be a constant source of pleasure, and will give a succession of bloom from May to November,—the bulbs used should be Snowdrops, Persian Iris, Crocus, Narcissus, Jonquils, Hyacinths, Crown Imperials, Frittelaria Meleagris, Tulips, Lilium Excelsum, Lilium Auratium, Martagon Lily, Lilium Chalcedonicum, Lilium Superbum and Canadense, Amaryllis Formosissimus, Gladiolus, Lilium Lancifolium, Punctatum, Roseum, Rubrum, Album (Japan Lilies), Autumnal Crocus and Colchicum Autumnale, white, purple, and variegated. All of these, except the Jacobean Lily, and the Gladiolus are hardy, and need not be disturbed from year to year, and with this selection, for six months in the year, we may have a succession of bloom; the plants are named in the order in which they bloom. The plants best adapted for masses are numerous; to even mention all would far exceed the limits of a single article. As a general rule any plant may be grown in a mass, due attention being paid to its habit and development. We propose, however, only to name a few which we have found eminently suitable for this mode of culture.

The Indian Shot (Canna). This plant is very conspicuous on a lawn, the leaves are large, showy and tropical, of all shades of green, and often with purple markings. It is a tall growing plant, some varieties attaining six feet in height, the flowers are showy even in the common variety, (C. Indica), and in some species very beautiful; that of Canna Nepalensis equals in size and color the Hedychium, all species need a very rich, deep soil and a warm exposure. It is better to plant roots than seeds, for the latter seldom give plants more than a foot high the first season. A fine bed of varieties, easily procured, may be thus made: Canna Gigantea in the centre, plants (if large), eighteen inches apart; next, a circle of C. Limbata, twelve inches apart; next, C. Nepalensis, twelve inches apart, or if large roots, eighteen inches; next, a double row of Canna Warczewiczii; close to the grass a broad line of variegated Sweet Alyssum. We have then a dark-green centre with reddish orange flowers—next, light-green foliage with reddish flowers; next, glaucous green with very showy creamy yellow flowers; then, purple foliage with scarlet flowers, affording a striking contrast with the White Alyssum.

The Castor Oil Bean, (Ricinus) in its many varieties, giant and dwarf, with every shade of foliage from deepest purple red to whitish green is very effective. The seeds should be started in a hot bed, and planted in position after all danger of frost is past. The plants need a deep, moist, rich soil, and no exposure can be too hot if the ground can be kept moist.

Japan Lilies.—These planted in a large bed are very showy. Set the bulbs rather close, say about eight to twelve inches. Such a bed presents a striking effect by moonlight.

Gladiolus.—No plant is better adapted for massing. The beds should be small, say from three to four feet in diameter. Set the bulbs nine inches apart; support each shoot with a slender willow stick, and tie as the flower stalk grows.

This is a beautiful bed to form in an open glade, in a wood, or at the end of a vista; the bright color of the flowers producing a dazzling effect.

The cheaper varieties only need be used, of which the best are

Brenchleyensis.—Vivid glowing scarlet, the best of all for this purpose.

Penelope.—Pink and flesh color, a very large flower and immense spike.

Hebe.—Pink and Cherry.

Couranti fulgens.—Red.

Madame de Vatry.—White, immense spike.

Endymion.—Pink.

Sulphureus.—Light Sulphur yellow.

Emma.—Deep red dwarf.

The Yucca makes a splendid mass, the foliage is always ornamental, and a mass of the tall aloe-like flowers is a most conspicuous object in a garden. All the species need a deep rich soil, and the plants should be seldom disturbed.

We have had one bed produce twenty spikes of bloom, one of which exceeded six feet in height, in our garden the past summer.

One of the great objects to be attained in massing is a succession of bloom and fresh bright foliage; therefore, with very few exceptions, perennials, (herbaceous plants) are not suited to this mode of culture, as they bloom only for a short season, and the foliage soon becomes ragged, faded and dirty.

The same objection applies to many annuals, such as bloom freely may be excepted, for example, some of the Marygolds, which are very showy during the autumn months, and those plants with dark or variegated foliage, such as Perilla Nankinensis and Amaranthus melancholicus, which are always very desirable.

Many green-house plants are very effective in masses. The species used are as various as the fancies of the growers.

Of bedding plants, such as Verbenas, Cupheas, Geraniums, Salvias, Heliotropes, Bouvardias, Ageratum, Alyssum, &c., we have no need to write. All do well, but are seldom effective unless planted near a path. At a distance the effect is lost, except, perhaps, in the case of Scarlet Verbenas and Geraniums.

Dahlias, (except perhaps the Lilliput varieties, which, pegged down, do well,) are not suitable for massing; the habit of the plant is too tall. They show to the best advantage planted in a close line against a back-ground of evergreens.

There are many other plants which might be named. We have only mentioned a few which are most effective. In this as in many other things, each must make his own selection, and often many failures are necessary to teach one what to choose.—Experience is always the best teacher.

Glen Ridge, May, 1864.

GRAPE CUTTINGS FROM HISTORY.

BY JOHN S. REID.

The native country of the Grapevine, commences about latitude 25° north, in Asia, running to 40° in the same atmosphere; but extending as far north in its cultivation, as latitude 50° in Europe, although between latitudes 30° and 40° appear to be its favorite climate. When we examine the nature of the grapevine, and its wonderful adaption to soil and climate, our cause of wonder is its wide-spread area, for it is found on the sterile mountains of Switzerland; on the banks of the Rhine, and the Carpathian mountains, as well as on the banks of the Mediterranean, and the far distant lands of Cabool and Hindostan.

But at present we intend to speak of the vine, as found in Asia Minor and the Holy Land. We mean to talk of the grapes of Eschol, and the vineyards of Engedi; of that land promised to the Jews, as being a land flowing with milk and honey; where Judah should bind his foal to the vine, and his Ass' colt to the choice vine; whose garments should be washed in wine, and his clothes in the blood of grapes.

The earliest authentic account we have of this country is in Holy Writ; and of the grapevine in particular, is on the return of the spies from viewing the same, in their report to Moses, which reads thus:—"And they came unto the brook of Eschol, "and cut down from thence a branch with "one cluster of grapes, and they bore it "between two upon a staff."

Now some of the Jewish Rabbis contend that this was an enormous bunch,—a bunch so large that it required eight men to carry it, and in some of their writings they have magnified the whole of the grapes of Eschol into bunches of enormous size, so

much so, that one grape was sufficient for wine for a small family,—a family of the Lilliputian order or species, we presume. Now some of our readers may inquire, where was Eschol, and what kind of soil was it that produced such prodigious grapes? Well, never having been there ourselves, we do not pretend to give an exact analysis of it, nor whether the soil of the brook Eschol was prepared according to rule, as *our* grape-borders are now prepared; but we would presume that it was pretty well gotten up, when it raised such extraordinary grapes. But as to the brook itself, we find it laid down in some of our maps, as one of the branches of the brook Serek, which rose not far from Bethzar, between Jerusalem and Eylon, and that its waters emptied into the Mediterranean, near Ascalon, in the land of the Philistines, in latitude 32°. Opposite Eschol on the Dead Sea, south of east is Enyedi, a little below the brook Kedron, mentioned so often in the Sacred Text.

Again, if one will take a map of Asia-Minor, and run his eye down to the south-east cape of the great sea, he will find the latitude of Gaza to be about 31°; and then by following the eastern shore of this mighty sea, up to its northern banks, he will discover the extent of territory claimed by the ancient Jews, as the western boundaries of the Holy Land, all of which was the land of the Olive, the Pomegranate and the Vine; for here were the vineyards of Libnah, Jazer, Abel and Sorek, mentioned by the sacred writers; whilst profane authors name Gaza, Sorepta, Libanus, Tyre, Ascalon and Sarou as vineyards of known value, the bunches of many of the kinds of grapes cultivated there weighing not less than 20 pounds each.

On the Eastern borders of Judea was the land of Moab, the Wilderness, the Dead Sea and Edom. Hence the beautiful apostrophe of the Bible: "Who is this that cometh from Edom, with dyed garments from Bozrah, &c."

The season of the vintage generally commenced in the month of September, continued through October, and closed in November, amidst general rejoicings.—Travelers write of the mode and manner of cultivating the grape, which seem to be in the simplest way. Some of the vineyards are trellised with posts and slabs; others are without any supports at all, and the vines are allowed to ramble on the ground, while on the terraced hill sides, the vines hang pendant on the terraces ripening in the sun—the very children of nature.

In a few of the vineyards near Enyedi, small posts were set in the ground for the vines, whilst in those around Samaria, they were tied together something in the form of a small bower, with their tops forming the coronal, the grapes hanging inside.

It is somewhat difficult to say exactly, what were the qualities of the grapes of the ancient Jews, when their land was one among the nations of the earth, nor what was the true quality of the wine as compared with any of the wines known to us.

At the fairs of Tyre and Sidon, wines were sold as articles of commerce. Some were reputed as most excellent in their characteristics, such as the wine of Helbon, of Biblos, of Libanus, and Tarepta.

Odoriferous wines were also not unknown to them, for it was customary to mix with the *must*, sweet scented herbs, drugs and myrrh, to flavor the wine, and give it strength, and make it capable of abating pain. Nectar was also a wine of the same quality as the Odoriferous wines, and used only by the Princes of the land. Hence the idea among the Greeks, that this wine was the drink of the Gods.

Eviran, the capital of Armenia, abounds in vineyards and gardens, and here the people of the country believe that Noah planted the first vineyard. The small grape Kischmish is raised here without seeds, and from a small red grape most excellent wine is made.

Mr. Layard, the English traveler says, that in examining the ruins of Nimroud, he

found many articles of much interest, among which was a metal wine strainer of elegant shape. He also frequently saw as he descended the Tigris, between Mosul and Bagdad, vineyards and Olive yards, where the vines were trellised in front and around the houses; and most luscious grapes were brought to him and his party by the Arabs.

Generally speaking, the wines of Palestine were heavy, sweet wines, in which water had to be mixed to prevent intoxication. The Scybellites, the Tibenum, the Arsynium, and the Abatcs are all wines of ancient celebrity; some of which were termed light or dry wines, not unlike our Catawba and Rhine Wine.

The wild vine, or one somewhat like our Labrusca, grows in profusion along the highways and among the hedges of Palestine, but its size does not average our common Fox, and the berries are small and acid. The yellow Syrian is supposed to be the ancient grape of Eschol, its bunches now ranging from 10 to 20 pounds, and very productive. There is another one of excellent quality, of an oval shape, and transparent, and a red grape, of size and shape not unlike our Diana; whilst travelers speak of a large black grape of superior quality for dessert, making a rich sweet wine.

So much for the grapes and wines of the Holy Land.

HOME CUTTINGS.

This month (April) opened cold and stormy, with high winds and heavy rains, so that our vineyards are fairly two weeks behind the usual seasons, and the buds, that should have been fully opened and showing fruit blossoms, remain semi-shut, although otherwise sound and healthy.

The Delawares and Clintons appear to have stood the winter better than any other; then comes next, the Concord, Diana, Lincoln, Union Village and Rebecca. These were left *out* all winter, unprotected, but the Iona and Israella were covered with earth, so was the Page and Allen's Hybrid, all of which when uncovered first of April, looked well. In speaking of the PAGE, all I know is from report, and this was given before. Its leaf seems like to the Herbemont, and its stem strong, but tender. I have about half a dozen of the vines, although only one is old enough to speak from. I have not seen its fruit.—Having several seedlings which show signs of fruit, I hope to inform you in the fall, of at least one of superior merit, a rival for the Iona, or Adirondac, or any other new variety.—Ain't this presumption.

NOTES UPON NEW AND RARE GREEN-HOUSE FERNS.—No. 1.

BY DANIEL BARKER.

GENUS POLYPODIUM.—SELECTIONS OF THE MOST RARE AND BEAUTIFUL.

DETTOIDEUM.—A very remarkable and handsome variety of 'Vulgare'; fronds erect, from 1 to 2 feet high, and from 4 to 6 inches wide.

CRISTATUM.—Well grown specimens of this are exceedingly handsome. Many of the perfect fronds resembling the beautiful Lastrea Filixmas Van Cristata; fronds from 12 to 15 inches high, and about 3 inches wide. Each division or pinnæ ending in a three-forked parsley-like tuft, with a much larger one at the top of each frond; a beautiful variety for the fern case.

MARJINATUM.—A very singular and rare variety; fronds not more than 9 inches high by 2 wide. In one plant I noticed each lobe was distinctly eaved, as the variety 'Auritum."

VULGARE OMNILACERUM.—This exceedingly beautiful variety, I noticed in some

two or three private establishments, and but at one of the great floral exhibitions. It is one of the most distinct and handsome of the many beautiful varieties of this fine genus, and ought to be in every collection of greenhouse ferns. Fronds from 1 to 1½ feet by 6 inches wide grow well in the fern case.

Vulgare Cambricum.—Although this is not a new variety, it is a most lovely fern. Fronds from 1 to 1½ feet and 6 inches wide and *always barren*. This I presume is obtainable in many of the collections in this country, and from its peculiarly handsome appearance, should be in every collection of greenhouse ferns. It will flourish in the fern case, where it is a beautiful object.

Vulgare Flexile.—Extremely handsome. The fronds which are almost prostrate, are about 9 inches long and 2 wide; lance-shaped and divided. The pinnae inclining *downward;* the pinnules *distinctly toothed.*

Vulgare Bifido Lobatum.—A new and very distinct form of 'Bifidum.' A beautiful small evergreen variety, well adapted for cultivation in the fern case.

Vulgare Serrato Truncatum.—A very remarkable and singular variety; fronds about 1 foot high to 3 inches wide. The pinnæ distinctly toothed, and has the singular appearance of having been bitten off. All the plants which have come under my notice are apparently constant.

Alpestre.—Comparatively a rare species. It is a most delicate and lovely fern. The fronds are lanccolate in shape, and from 1 to 2 feet in length. Color, a beautiful deep green. The habit is upright and very graceful.

Vulgare Somilacerum.—A most beautiful fern when well established, and very *constant* under cultivation. Fronds from 1 to 1½ feet in height, and about 6 inches wide. The fructification in this variety is remarkably prominent.

Aurito Dentatum.—A rare and beautiful variety. The only specimen which I saw of this was found growing wild near the celebrated Lake Windermere, county Westmoreland, England. The lobes are very aurite or eaved, (as in the variety Auritum), next the main rib, a small variety, the frond being normal in outline.

Vulgare Bifidum.—The lobes of this variety are seldom all alike, and I think quite liable to vary under any circumstances. When a good form is obtained it is very fine and beautiful.

Compositum.—A truly composite variety which is very difficult to describe. It combines the variations, more or less, of Bifidum Serratum, Auritum and Endivifolium, a particularly beautiful and interesting variety. Should be in every collection of greenhouse ferns.

Interruptum.—A very curious and singular variety, with the general appearance of Flexile. The lobes are all irregular or interrupted, many of them being absent altogether. All the fronds which have come under my notice of this most curious sport, were barren of sori.

Multifido Cristatum.—The fronds of this splendid variety consists of little more than a long stalk, and about two inches of a most beautiful crested margin or tufts, which form an exceedingly handsome crest, one of the most interesting and splendid varieties in cultivation.

I made notes of no less than 30 varieties of Polypodium, at the various exhibitions in Europe, during the last summer, many of which are exceedingly interesting and beautiful. Many may not be constant in cultivation. Those named above, I believe are so, (with the exception of V. Bifidum) and can be depended upon as such; that a few years will bring many, even more beautiful than those which I have very feebly described, to light, there can be no doubt, comparing the normal form of "Polypodium Vulgare," with such beautiful varieties as Cambricum, Somilacerum, Omnilacerum, Endivifolium and others, there seems to be no limits to the forms which may yet appear.

There is a wide field open to the lover of

this fine genus, and there is no reason why the collection of Ferns, (in this country) should not be as rich in *native* varieties, as those in Europe. The time *will come* when they will be.

HINTS AND QUERIES.

BY T——, ELGIN, ILL.

English Gooseberries,—must they be discarded? I dug up mine years ago, all but one bush which I fondly spared for its "handsome doings" in early days. This I nursed with care; but notwithstanding all my pains-taking, year by year the mildew would take the berries as regularly and surely as the "little Turk" my plums, till last season, that dryest of seasons, when, wonderful to tell, it gave me a fair show of healthy fruit again. What did it? Was it the shade of a small Austrian pine which began to loom up on the south side, or the dryness, or something else?

A neighbor has a neglected row of bushes of the same kind growing in stiff clay in a low shaded spot, which has never failed to give him fair fruit during all these years. Well, perhaps "its no consequence:" The Houghton, though smaller, is always good, fine flavored, easily managed and productive.

The Weeping Willow, (Salix Babylonica) my old favorite "ornamental," will not be coaxed here into enduring thrift. I have been trying divers methods in different localities, and waiting almost a generation without success; getting it up some fifteen feet or more, with a fair sweep of drooping spray, and then, by some untoward winter seeing it reduced in the spring to incipient conditions. But two have attained a respectable size in our place,—having doubtless found a somewhat congenial habitat—one high on a terrace near the wall, the other, low, having cellar drainage. Will the new ones, American and Kilmarnock do better?

We can make many things grow on the wrong side of Isothermal lines when we learn how. We must know the wants of the nurslings, how much sun, how much shade, what kind of soil, how much wet, and how much dry. For instance, the Catalpa will not be reconciled to the conditions of my grounds. After trying it several years I had to dig it up, but the roots being good, I was loath to throw them away; and remembering how I had seen them flourish on the banks of the Dan and Stanton, and on the Delaware, I planted them on the dry, sandy and gravelly banks of our little river, in a bleak exposure, where they have continued to grow and bloom quite well.

Was it the Winter or the Beetles? My grapevines were infested in the Spring of 1863, with the little steel-blue Beetle, (Halticacalybea) the only time I have ever noticed them in my garden. In June following, their larvæ were discoverable on the leaves. Where they were most numerous there was but little fruit, and little new sound wood.

The Winter of 1864 was destructive to all exposed wood, but mine was covered with leaves and litter. In the Spring following, many of the canes were injured, some dead. Some Delawares and Dianas lost an arm as well as spurs, marring badly my careful pruning and training.

The Birds and the Fruits.—Well, lackaday—there does seem some bitter with the sweet, a prick in every pleasure. The Birds—I am delighted with their music, their plumage, and their motions; but to feed them from Strawberry time till Grape gathering is quite another thing. O but, say the knowing Solons, they save the

fruit from hurtful insects. Yes, they do take the insects, *and* they take the fruit too. "Well, it is only a small per centage they take for protection." Small? I happen to think otherwise. I am of opinion they care little for insects while the fruit lasts. Why, what portion do you suppose it takes of my Tom Thumb and Champion peas to rear a hatching or two of Orioles? And how many rows of all my small fruits will it require, think you, to feed the families of half a dozen pairs of Robins, ditto, Cat Birds, ditto, Brown Thrashers, and a colony of Cedar Birds? And then, there are the peckings and suckings and pluckings among the larger fruits, the fair sunny-side show specimens, the products of nice culture just mellowing into ripeness —all spoiled at last. The pretty provoking harpies, the thieving gourmand pests! The insects forsooth and compensation! Why, these gay allies live on berry-deserts.— What if they do now and then snap up a stray beetle, or some luckless moth, and gobble their larvæ; they return with eager haste and appetizing fondness to their favorite fruit repast, morning, noon and night. And must all my outlay, toil and waiting come to nothing? Or must I do picket duty, and pace my garden like a sentinel to keep off the marauders? No, I'll fire; yes, I'll shoot!—So I feel sometimes.— But then, in the Spring-time I shall welcome them again; their trills and carols will touch responsive chords, and I shall let them build and rear their younglings; in the Summer and early Autumn I shall be sore vexed with their misbehavior.— But I shall dismiss them in frosty time with something of the philosophy and feeling of "Uncle Toby."

I must thank H. W. S., for giving us in the January number, his successful method of growing "Broad Leaved Evergreens." This is nature's own way. I have tried other treatment and failed. I shall try again, and I shall succeed. I wish he had told us where to find the three new mahonias.

FLOWERS AND THEIR CULTIVATION.

BY O. H. PECK, MELROSE, MASS.

Messrs. Editors:

Gentlemen,—Please allow an humble individual, a short space in your valuable and interesting magazine, to be devoted to the pride of his heart, the bent of his will, and the insatiable appetite of his mind, viz: "Flowers and their Cultivation."

Hard-hearted, callous-minded, inexcusable, old, and sometimes young chaps can see nothing to admire with interest, in the beauties which nature has prepared for soothing the sorrow, comforting the afflictions, and making glad the hearts of the denizens of this world. To all such allow me to say in the language of one who left his earthly tabernacle, to bloom in the gardens of Paradise, nearly one hundred years ago.

"Go poor devil, get thee gone; why should I hurt thee. This world surely is wide enough to hold both thee and me."

But to those dear old friends, whose joy of the beautiful never ceases to flow on in its pellucid stream, who love to feed on flowers and spend their little crowded hour of life in that most noble and glorious pursuit, the cultivation of flowers. I do entreat thee lay aside all prejudice, and "pride that licks the dust," and come with me to

> "Gather rosebuds while ye may,
> Old time is still a flying;
> And this same flower that blooms to-day,
> To-morrow will be dying.

God beautified the earth with flowers, intuitively we love them, argumentatively we cultivate them. How lively and charm-

ing is the sight, when delicate buds of gayest colors are put forth, when little petals expand to the sweet notes of innumerable birds, whose melody is softened by the gentle motion of the air. The arising sun warms the awakening day, drinks the holy dew which fell from heaven, adds new lustre to the festive blossoms, and sends a ray of divine light, deep into the recesses of the heart of the ardent lover of God's annual gem, colored and perfumed in the bowers of Paradise.

What delicious fragrance floats on the air! We are filled with such pleasing sensations that we feel transported to the Oriental Gardens of the East, where groves of oranges and citron send out their ravishing perfumes; where roses entwined with woodbines appear in beautious contention; where noble vines adorn the naked branches of stately elms; blushing and transparent fruits peep from between the foliage; where acres of roses fill the air with luxury, and odors of cloves, sandal wood, cedar and frankincense soporates the beholder with delight.

The fragrance and somnorific power of the odor from the flowers of the Orient are to us unknown. It is related of a Persian poet who was rich in genius, but who wrote little, that on being asked why he did not produce more, replied, "I intended as soon as I should reach the rose tree, to fill my lap and bring presents for my companions, but when I arrived there, the fragrance of the roses so intoxicated me that the skirt of my robe slipped from my hands."

It may be true that the flowers of the Oriental world surpass in richness of color, and in overpowering fragrance those of our colder clime, still I cannot believe they are adored or appreciated more. Among Americans, there seems to be a growing love, and an increasing admiration for flowers. We hope and trust that this love will meet with no obstacle to retard its progress, but on the contrary, may it continue to expand until the love of all hearts shall be drawn within its fascinating folds, and may the time be near at hand, when the flower garden shall become an institution, and a part of the household of every householder, never to be dispensed with.

A stranger on visiting the vicinity of the city of Boston, is greatly surprised at the large number of chaste and beautiful homes which meet his view on every hand. These suburban residences are built with much fine taste and skill, and the grounds laid out in ornamental and useful designs. We often see a beautiful sheet of water with a fountain in the centre, throwing up its sparkling stream of crystal gems; beside the gravelled walks, in beds of richest earth, are flowers in every color, shape and style. The pretty little annuals whose lives are cut off by the first sharp breath of the wintry king; the perennials whose autumn death is but the prelude to another life; these with the hardy shrubs and bedding plants, give a succession of flowers throughout the season. Gambolling around the home, are the little children, pets of the household, enjoying the life giving atmosphere, which sends the warm blood to their dimpled cheeks. The gray pony, with his low seated wagon is drawn up before the door, ready to carry the happy family to their twilight ride. Dog carlo wags his tail in consequential assent to all the proceedings.

Such are some of the comforts which you find in New England Homes. Let each and every one of us do all in our power to advance and promote this living and enjoying living. In what better way can we proceed, than inculcating in the minds of the young, the beauty and lovliness of flowers; loving gifts of a beneficent Creator. Teach them to plant the seeds, to watch and protect the flowers, to make it a part of their daily routine of life. Happiness and innocence will be the blessed result.

"All who joy would win—
Must share it—
Happiness was born a twin."

NOTES OF FOREIGN TRAVEL.—No. 1.

In an ornamental point of view the environs of London present several general characteristics, while the Horticulture within and around the metropolis is usually, and perhaps justly regarded as embodying all that is known of excellence throughout the country, and as affording a fair criterion by which its progress may be judged.

The valley of the Thames, from London up to Hampton Court, is rich in all the beauties which water-side villas and villages commonly impart. The neighborhood of Fulham and Kew, Twickenham and Richmond may be specially singled out as affording pleasant banks, with green lawns of perfect verdure, noble trees, and beautiful and commanding sites for the most commodious and comfortable country seats to be found in all lands. The celebrated villa of Pope, at Twickenham, has been converted into an extraordinary modern residence, in a mixed Chinese style, and has thus lost its original identity, and its peculiar associations. Strawberry Hill, the seat of Horace Walpole, still remains, without essential alteration. The whole of this country, on both sides of the river, furnishes admirable sites for gentlemen's seats, presenting broad masses of trees, and blades of grass, with sufficient variation and elevation of surface to render the views commanding, while the mingling of park and village, of trees and hedges, of castle and villa, and horticultural structures, present a picture of wonderful interest and beauty.

Among the noble trees which are always preserved with such care and cost by the English, there are many Cedars of Lebanon, of great age and size, and which constitute a peculiar feature in the landscape of these suburbs. They are unusually numerous on the west and south-west sides of the city. As the adjuncts of stately mansions or elegant villas, along the valley of the Thames, they are remarkably picturesque and effective, and the traveler can scarcely pass a hundred yards along portions of the western roads, without coming upon fresh specimens and groups of them. It is scarcely necessary to add that they communicate a very marked and aristocratic character to the district. And they are as beautiful in their early growth, as they are venerable and majestic when old. They are here met with in avenues, and standing opposite each other, near the house, or on a lawn, or as single trees, or part of a group of mixed species. But very rarely, I noticed, are they found grouped together in mass of three, four or more, on lawns, or in parks. Those at Holland House are a notable exception; but they are unfortunately now so shattered as to have lost their distinguishing beauty. No tree, perhaps, if we may judge from the imperfect examples we have seen, and from the more satisfactory descriptions of those still existing on Lebanon, is better adapted to unite into a splendid group for a lawn, or for the slope of a park, or especially for a swell or knoll in either a park or garden, where they would be sufficiently sheltered. As trees for detached grouping, with their own species alone, both this and the Deodar have, I think, yet to develope a new and most uncommon character in the English landscape.

Lombardy Poplars, with their stiff, ungraceful forms, are very freely introduced into the scenery around London. This tree seems to harmonize somewhat with the pointed style of architecture, and one or two, I have often thought, might be planted in the church yard, with good effect, —its upward pointing and aspiring growth would seem to be in keeping with the Gothic structure against which it is relieved.

There are some celebrated Beeches at Burnham, and Windsor Park contains some superb specimens of this noble tree. In

the neighborhood of Sevenoaks, Kent, also, the Beeches at Knowle Park are of the finest order, while those in the Marquis of Camden's park, adjoining, are superlatively beautiful, being planted on the slope of a hill, and spreading down their branches on the grass, in the most graceful and natural fringe imaginable. On the top of a hill not far from this, but nearer London, are the famous Knockholt Beeches, which, standing alone in a considerable group, make a conspicuous landmark which can be seen for thirty miles around.

In Kensington Gardens, Greenwich Park, and other places, are to be found some very fine specimens of Spanish Chestnuts. It is a first rate park tree, especially for low sheltered situations. In Bushy Park there is an avenue of Horse Chestnuts of extraordinary beauty and attraction.

Weeping Willows, especially in the Surrey suburbs, are frequently found in the smaller villa gardens, though more commonly reserved for the margins of water in larger places, or for overshadowing tombs in cemetries.

Visitors in the neighborhood of the Metropolis, in autumn, will be much pleased with the appearance of the Virginia Creeper, which abounds on houses, cottages, walls and gateways. The mixture of red and yellow, and a purplish tint in its foliage at that season, imparts great richness to its appearance. It is a favorite vine wherever known in England.

It is not my purpose to catalogue or describe the trees about London; but no mention of English scenery would be complete which left out the Old Oak, of which the English are so decidedly and justly proud. In the notes of the Parks in and about London, which I propose to send you, the Oak will not be lost sight of or forgotten.

THE STABILITY OF THE TYPES OF VEGETATION.

BY DR. J. STAYMAN, LEAVENWORTH, KANSAS.

Every atom of matter has within itself the laws of attraction and repulsion which is coexistent with it.

We cannot conceive of it in any form independent of those laws. All matter is susceptible of assuming either state, or both, owing to its electrical conditions, positive or negative.

Likewise, all matter is capable of assuming three forms: solid, fluid, and gaseous. The solid is the attractive form, the gaseous the repulsive, and the fluid the intermediate. In the solid state every particle is held together by the law of attraction, and in the gaseous they are separated by the law of repulsion. As all matter is in one of these conditions, it must attract or repel other matter in proportion to the affinity existing between them. Consequently, we have the law of motion as an essential property of matter which always exists with it; which may be increased or diminished in proportion to its relation to other matter.

In composition and organization we see its adhesive and positive effects, and in decomposition and disorganization we see its repulsive and negative effects, and in its intermediate state it is held in equilibrium by the opposing forces, and in that state matter can only be said to be relatively at rest.

By the laws of attraction and repulsion, particles or atoms unite by a definite law of proportion, as each ultimate element has a *fixed form* by which it retains its properties and identity: any *change* in the *arrangement* of those atoms will produce a different result. Therefore we have many varieties and form of matter yet of the same composition.

It is by this law of affinity that objects

preserve their existence distinct by attracting only those materials in certain proportion most congenial to their nature. By this law every organization is built up and retains its peculiar character, though every part is supplied by the same general fountain, yet each part, by this law of affinity attracts only such substances in definite proportion that compose the different parts of the organism, as the wood, bark, leaves, flower and fruit.

It is by this law that we are enabled to clasify into genera, species and variety; each class preserving its peculiarities inherent in its constitution, assimilating and depositing to every part of the plant what is best adapted to its nature.

In each of these classes there are peculiar tendencies, each has its own character and form of growth, by which it is capable of sustaining other varieties of the same species when engrafted upon its own stock. By this law of affinity each variety must retain its identity distinct from all others, upon the same principle that the different parts of the organism does, as the leaves, flowers and fruit, &c.

Although the different parts of the plant be supplied by the same general circulation, and composed of the like elements, yet by these laws of attraction and repulsion, composition and decomposition, organization and disorganization takes place, until each part has rejected or received its just proportion in its own peculiar form and manner to retain its identity. If there was not a law of this character, all nature would become a mass of confusion, its identity would be destroyed, what would be recognized to be a fact at one time would be different at another; so all distinction would be lost, and we would be placed in a labyrinth of uncertainty, where all knowledge based upon observation would cease.

But by these unerring laws, all vegetation retains its peculiarities and properties, and preserves its least shade of difference throughout numerous ages unless crossed by some different variety.

To illustrate this subject more fully, suppose we take a certain plant, (say Delaware Grape,) this will retain and preserve its peculiar character throughout all ages, in every climate; (though modified by cultivation and surrounding circumstances to some extent) when returned to its native home it will have the same character, not even having changed in the least by ages in a foreign land. Neither climate, grafting on other stocks, or manner of growing can change it. We cannot even do it by crossing or hybridizing, but simply produce a new variety, partaking perhaps of the character of both.

The reason of this is, the production of new varieties depend upon the germ principle, which may have its inherent atoms differently arranged by the pollen of its own flower, or that of some other variety. Consequently scientific experiments upon this subject, will demonstrate that by careful examination of the character, constitution and habits of plants, and their hybridization, for the purpose of remedying their natural defects, will produce a healthy and improved order of vegetation with any peculiar characteristics desired, as have been done in the animal race.

Constitutional defects can only be remedied or counteracted by the strongest possible efforts, and by hybridizing with those of very marked opposite tendencies, which must predominate to give a positive effect to their products. As long as this state is continued and this law observed there will be an improvement; but on the contrary, should it be neglected the negative state will take the ascendency, which will soon lead to degeneracy and go back to the original and unimproved type.

The reason of this is, the positive state has always a surplus to spare, and has therefore the flower to give or impart, and will make the negative conform to it, minus the amount of the negative state. Consequently the more marked the positive state is the greater will be its effects, and the more striking its peculiarities.

For this reason seedlings cannot be depended upon to produce exactly the same sorts as defective pollen, or a very marked positive state of it, or the pollen from other flowers would produce a different effect. And for like reason different varieties engrafted upon other stocks cannot lose their peculiarities if so engrafted for generations.

It is supposed by some, that the climate and the stock have some influence upon the grafts, and through the course of time they would be acclimated or changed in their character. It is true that they have a modifying influence, but do not change their peculiar characteristics. It is simply as it were a bending, contracting or expanding effect, which may take place in almost any location, by their adaptation and manner of cultivation; yet the types of vegetation remain distinct, even petrifaction does not change them, for we can there read the records of by-gone ages with unerring certainty.

For instance, to illustrate this subject more fully, every variety has its peculiarity of growth; some are very vigorous and erect, others the opposite, and the formation and growth of their roots are in a corresponding manner.

If we graft those of very opposite tendency on each other, the result will be a modifying influence produced on their habits of growth, in proportion to the vigor and predominating tendency of either, as the Apple on the Paradise, or the Pear on the Quince.

Likewise of the influence of climate and location, if grown on the open prairie, they would be exposed to continual agitation, and subject to hard and prevailing winds, and scorching sun, which would make them conform to a low branchy, stocky form, and well rooted habit to endeavor to retain their existence under such unfavorable circumstances; while on the contrary, were they grown in a heavy timbered and calm country, it would be the reverse. So of all other conditions in like proportion. The same may be said also in respect to their bloom and fruit.

The climate, propagation, cultivation and attention, may produce them to the greatest perfection, or the reverse. Yet in all these instances, when returned to their native homes and habits they still possess their original peculiarities.

Neither time, climate, propagation or cultivation, or any thing can change the types of vegetation; they carry their identity throughout all ages, at last to give place to a new order, perhaps more congenial to the altered clime.

Yet by the research, industry and perseverence of man, we can produce new varieties better adapted to our various wants, and more congenial to our numerous locations and diversified climate.

BUCKTHORN *VS.* HONEY LOCUST.

Messrs. Editors:—I am grateful to Mr. D. D. Buchanan, of Reid's Nurseries, for giving me an opportunity to say, that the paper on "Trees and Shrubs of beauty," was sent to the Horticulturist without my consent or knowledge. It was written for a local Society, and was not intended for the public. Placed in contrast with the facts presented by Mr. Buchanan, it shows how much care horticultural writers ought to use, when they undertake to direct the rural embellishments of a country so large as ours.

To one living in Central New York, where the mercury has a trick of dropping down to 20° below zero, Mr. Buchanan's statement that "the *Pyrus Japonica* is the finest deciduous plant for ornamental hedges," reads like a bit of pleasant irony.

Such a hedge would not survive an ordi-

nary winter in central New York, unless protected by deep snow. Nor does the Osage Orange fare any better, and our Privet hedges are often deformed by dead patches.

Not to question Mr. Buchanan's right to speak for the latitude of Elizabeth, N. J., I must still insist that, in Central New York, "for a hedge to turn cattle, we have nothing better than the Buckthorn, and need nothing better." John Jay Smith describes the Buckthorn as "a strong, quick growing plant, that makes a good close hedge; is very hardy, and when properly cut looks extremely well. Its bark and leaf are offensive to insects; and the borer, which has ruined nearly all the thorn hedges in this country, will not touch it. It will grow in the shade, and in most every soil." In Massachusetts, the Buckthorn is considered the most suitable plant for hedges. There, as in Central New York, it vegetates early in spring, and retains its verdure late in autumn. Being a native plant, it is never injured by intense cold; is never girdled by mice; never sends up suckers, and having small, fibrous roots; it is contented with its humble condition in the hedge row.

If your correspondent is anxious to defend the Honey Locust against all attacks upon it, I would call his attention to the 98th page of the first volume of the HORTICULTURIST, where the late A. J. Downing says: "We cannot recommend the three-thorned Acacia, where a really good and permanent hedge is desired. It grows very rapidly, and its foliage is very ornamental; but its habit is so coarse, and its growth so rampant, that it is almost impossible to keep it in due bounds, and form it into a really compact hedge. If only a loose and picturesque barrier is desired, then it will do perfectly well. But if one desires a compact and durable hedge, he had better employ the Buckthorn, or some of our native thorns. Our friend, the late Judge Buel, was quite partial to this plant, and strongly recommended it for hedges. By his persuasions mainly, we planted about 600 feet in excellent soil. The hedge is a flourishing one, but neither trimming, shearing, nor plashing have succeeded in making a close and satisfactory hedge."

Yours very truly,

E. N.

OUR METHOD.—No. IV.

BY PRATIQUER.

ONE of the reprehensible fallacies of grape philosophy is, that the vine is capable of bearing great hardships, and proceeding from this postulate, instructions are apparently given in imitation of the experiments on the capabilities of the horse to live without food, to test the exact amount of ill usage it can endure.

But *cui bono!* Why experiment on its vitality? Why treat it with severity? Will a poor plant thus become a good one? Will a good one be any better for it? Will nipping in the bud develop vigor? Will frequent pinching increase its natural force? Will summer pruning enable it to ripen its fruit earlier and better? Is cutting and slashing to be the ferule and birch rod to expunge its original sin, and bring it back to the standard of excellence? Can the weakness thus engendered be cured, and vigor restored, with stimulating manures as its "plantation bitters?" We answer emphatically, no! Our method begins with a healthy plant, and applies the "Soothing syrup" of good treatment to produce fundamental vigor. The Indian who plunges his new-born infant through the ice into the cold water of the lake or river, gives as a reason for it, that if it cannot bear hardships, it is not fit to live. Such is not the reasoning of civilization, and we never try it on our children or on young grape

vines. It is a good rule to do nothing to a vine without a motive, and to consider well beforehand if that motive is a useful one, and attainable without injury. Hence, when our vine is young and struggling for existence, we "lay it down softly and care for it tenderly," prefering to encourage instead of checking its progress, while its energies are required to establish a strong constitution. For this reason we only restrict it to one cane, and allow it to grow freely during its first two summers. In this we are at loggerheads with our brethren of the old school, who seem most anxious to bring forth precocious fruit-bearers, at the expense of the health and life of the vine.

"I can," says one of the theorists, "make my grapevine bear more fruit when it is two years and six months old, *than it will ever produce* in any year afterwards." He should diligently follow up this treatment, by planting new vines, as he does strawberries every year, for by no other means can he secure a succession of crops.

Our method, looking to a communication with posterity through a grapevine telegraph, that our memory may be cherished, proposes to have the old vine "a sure thing in 1870," (S. T. 1860. X.) and long afterwards; therefore we neither pinch it unreasonably, prune it immoderately, or crop it excessively.

The European practice, adopted by our K. G. C's, (knowing grape cultivators) *said* to be founded on Scripture authority, (see Canticles 2, 15) of pulling off the "little foxes (laterals) that spoil the vines," while it mystifies a beautiful poem, too beautiful for criticism, evinces in its practice but little of the "wisdom of Solomon." Their "vines have tender grapes." Our's are said to be not tender enough, *ergo* they should have different treatment. What we most need is an American system of Grape Culture, including a total reform in summer pruning, confined to removing the secondary shoots from the double bud early in June, and a judicious pinching with the thumb nail *only* at the extreme ends of the laterals, and even this *better omitted than overdone.*

The reason why native grapes ripen their best fruit in tree tops and high places, is not because they get the sun, but because they are protected by the foliage, and are beyond reach of experiment; *they cannot easily be tampered with.*

In no case should the lateral be stopped where its leaves are necessary to cover the fruit or to shield the primary leaf, which exposed to the burning rays of a July or August sun in our climate, is liable to sunscald, to turn brown, dry up, and fall off. Whenever this primary leaf is lost the fruit does not ripen. We have a friend who "opened his fruit to the sun," by removing the leaves last September, whose grapes are not ripe yet. Another who boasted that he never saw mildew, did not know what it was. Owing to the scarcity of labor, his laterals grew long and the foliage enormous. He then directed an assistant to cut off the overhanging laterals with a sickle. It was quickly done, as he stated, and in these war times was a great saving of labor; but he has had no ripe fruit, and he both knows and has seen mildew, besides becoming the owner of a worthless vineyard, conducted "on the European plan." Cutting off the rank growth and removing the foliage checks the flow of sap, causing a violent reaction where it cannot be absorbed, and producing disease in the vine, whether old or young. "Papa," says our little representative of seven summers, "Is every one who raises grapes a Doctor?" What makes you ask that question? "Because, every body who comes to talk grapes with you is a Doctor." "That boy," says his grandmother, looking up from her soldier's stocking, "needs pinching-in. I'll see that you have a dose of pills, when you go to bed to-night, to keep down your animal spirits." How many of our K. G. C's are of grandmother's school of practice? To whose patients the Italian epitaph with a slight alteration would apply: "I was

well—*my friends wanted me to be better*—gave me physic, and here I am." We hold the doctrine, that a healthy subject can brave and endure the hardships of life, with better prospects of surviving than one already feeble.

Our efforts to produce a healthy young vine having succeeded,—for on examination we find that the cane and its laterals are ripened to their very tips, and the buds are bespoken by the propagators, who say they *like that kind of ripe wood* for raising new plants—we now proceed to indicate the treatment necessary to make it bear healthy, sound, ripe fruit, year after year. At the end of the second season, the vine is represented thus, (see Fig. 1) and the same pruned

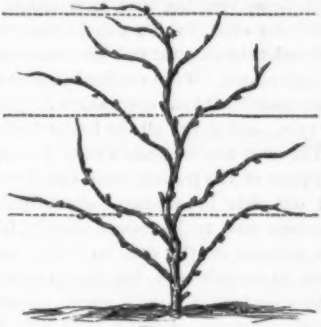

Fig. 1.

down for its third summer's work, thus (Fig. 2). Our K. G. C. tells us that we

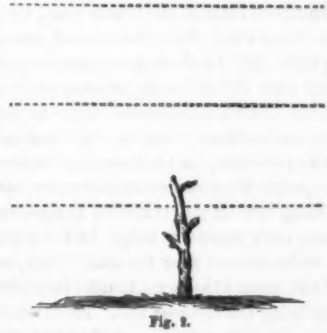

Fig. 2.

are behind the age. Next year, he says, you ought to have twenty pounds of fruit. His process may be interesting to scientific cultivators, and our friends who are grape hungry may use it on a few vines in the garden, as they would force a pineapple, regardless of cost and of consequences.—Our treatise is for vineyard culture and we can afford to wait. The vine then being cut down to two feet from the ground, or at the first eye above the lower wire, we select three good eyes near the top, for growth the third summer, rubbing out all others, the upper bud is to be trained upward, and allowed to grow with its laterals as before, and may make six or eight feet in length of cane. The two lower buds are to be tied to the lower wire, which we place two feet from the ground. On our trellis we use but three wires two feet apart, instead of the usual five. These lower buds are to form horizontal arms for fruiting in the fourth year, and are to be allowed to grow without stopping; but the laterals are to be once pinched above the third leaf, and then suffered to grow the remainder of the season.

Tying up, and keeping the ground mellow by cultivation, is our prescription for the third summer. In the third autumn after the sap has performed its offices, and become a portion of the woody fibre, ripe, firm, ready to withstand the vicissitudes of a winter climate, we use the knife, cutting it this time four feet from the ground, and reserving three buds at the second wire to form two more arms and a leader, with the same treatment as before. Our lower arms are now each to be reduced to three feet in length. If the vine will not bear the climate, it may be laid on the ground and covered lightly with earth; enough to hold it there is sufficient. A Delaware may be tied up at once to keep it from swaying about in the wind, and may be exposed to a temperature of 20° without injury.

In the fourth spring we tie up the trunk of the vine to the trellis; the arms on the lower wire are to be disbudded of every alternate bud, reserving those that hang downwards as being most graceful, and al-

lowing five or six of the canes on each arm to bear one bunch of fruit, removing all the other clusters when the berries are of the size of small peas, and retaining the finest bunch of the three or four that set on each cane. A grapevine of this age, will overbear, if allowed to, and we must exercise great self-denial for its future good, the temptation to get thirty bunches of grapes instead of ten is almost too much for human nature to resist; but when we reflect that the one remaining bunch will be of much finer quality, *sure to ripen*, and when ripe, will weigh as much as the whole three, besides that the vine will retain its vigor, and will be able to repeat the exertion, and more too as it grows older, the wisdom of pruning the fruit will be apparent, and we shall be content to take off, at least two clusters out of every three. As we are averse to heading-in the fruit bearing canes, and pinching all through the season, we propose first to try the checking process, by a vigorous twist of the arm, say once in each foot around the wire, securing it at the end with a strong willow tie. If this twist is made in the right direction, it will do much to retard the rapid flow of the sap to the extreme ends of the canes; nourish the fruit thereon, and obviate the necessity of heading them in. All grape growers know that the growth is greatest at the extreme ends, and should know that stopping is unnatural, injurious and productive of no benefit to the fruit. It should therefore be avoided if possible. But we ask our class of readers, which way shall we twist it? The one who answers correctly shall go to the head. Nature has a spiral.—"What is the reason" says old Mr. Phogee, "that my Lima Beans all slip down from the poles, and never bear? Is it because the seed comes from the Southern Hemisphere, where every thing goes by contraries? I am particular to train them *with the sun*;" and he pulls out his antiquated bull's eye silver watch, to show that the hands go with the sun, or else how could it keep time. But he forgets that the rays of the sun come *down*, and that to go *up*, the engine must be reversed. We advised him to use a corkscrew for a quadrant when he next "took the sun."

Nature's upward spiral is from right to left. Keep the left shoulder to the pole, and walk around it. Every young architect should visit the monument erected in memory of Ledyard and his slaughtered companions, at Fort Griswold; ascend the spiral staircase set by a patent lever watch, and built by a mechanic who was left-handed! When we desire to twist a vine to *check the growth*, we go in the opposite direction, pass the cane at the left hand under the wire, then bring it towards you over the wire, while that on the right hand first passes over the wire, then under. If you twist with Nature, you do not arrest, but assist the growth: therefore this should be understood. When the fruit puts out on these arms let it hang downwards; it needs no tying, and shows all the better for it.

This year too, we train a cane to supply the place of the fruiting arm that is to be cut out late in autumn, after fruiting. The new cane to be trained upright from the junction of the arm with the stem, pinch its laterals once, but do not suffer it to fruit, or head it in, as it affords an outlet for all exuberance of growth, and with this treatment the cane is sure to ripen, which is absolutely necessary to its fruit bearing the next year, and indeed for future years.

In the autumn of the fourth year, we cut our vine six feet from the ground, arranging to have but two buds grow for arms on the third wire the following season, while we cut the arms on the second wire to three feet, and subject them to the treatment before indicated, for the arms on the lower wire, while the arms on the lower wire after yielding five or six pounds of grapes, supposing each bunch to weigh half a pound, are to be cut out near the main trunk, and the two canes bent down to take their place after being cut to three feet. These renewals are to take place annually, and each pair of arms are to be allowed to bear ten

or twelve bunches of grapes until the system is established—after which the quantity may be increased gradually to double that amount, whenever in the judgment of the cultivator the vine has strength to bear it—being well assured that it is able to ripen the fruit, and to ripen the canes at the same time.

On the "European plan" of pruning, Native vines overbear the third summer, become enfeebled, do not ripen wood for future bearing, and as the minute spores of the mildew seem to be ever present, and ready to seize on sickly, decaying, or dead plants, it does not make an exception of the vine. We seldom pay any attention to the visits of this one of Nature's scavengers until the mischief is done, and then begin to enquire: What is the matter? and what is the cure? We think it better to enquire, what is the prophylactic? What will prevent it? And our general answer is, avoid the European plan of cultivation; plant only healthy, vigorous vines; do nothing to enfeeble them; do not stimulate them to extra growth; and then try to stop or force it in some other direction. Remember the tight-laced belle, who crowded her waist into her shoulders, and became a hunchback. Do not encourage precocious fruiting; that it may be done is no reason why it should be. Do not stop or cut off growing canes; and yet, every treatise and direction for training the grape vine, present and recommend these glaring fundamental errors.

In short, let us without delay *confess our mistakes;* (all honor to Bright) issue an emancipation proclamation, and adopt an AMERICAN SYSTEM.

FORESTS AND FOREST TREES.—THEIR PRESERVATION, &c.

BY C. N. B.

WE feel proud of the natural features of our country, our rivers, our hills and mountains are varied and grand in range and height; our fossil and mineral resources inexhaustible, and intrinsically of the most valuable kinds; our soil productive of the comforts and the most useful of sylvan productions. These natural features correspond with the extent of our territorial bounds and the nobleness and excellence of our civil institutions. The hills, and the mountains, and the rivers, are in the keeping of the Creator, having received the immutable stamp of nature; but the preservation of our forests, like that of our liberty, is obliquitory on ourselves. By a provident care both will live for ages. The venerable grey-headed patriots among us, who appear to be intuitively prescient, point tremblingly and fearfully to the daring and reckless woodman and politician, so sacrilegiously approaching the forests and the constitution of the land.

Placing in such equal importance our liberty and our forests, may seem to some to be over-rating the one and underrating the other; but when it is recollected that we, as expressed by a Roman naturalist, "by the tree we navigate the ocean, cultivate the earth and build our houses; it should not be considered an unpatriotic union." What would have been our commercial importance and our naval standing among the nations of the earth, had it not been for our forests? Let any one reflect for a few moments on the immeasurable uses to which the tree is devoted, and consider how intimately connected are our comforts and pleasures with its great value and primary importance of our forests; he will see that the least scarcity or advance in price very materially affects every branch of trade and every department of domestic pursuits.

It must be a subject of astonishment to observe the wonderful intermixture and

seemingly inseparable connection between both moral and physical good and evil; to see that the same thing which we at one time dread with abhorence, at another time, and perhaps under different circumstances, becomes a subject of pleasing admiration. We often hear heart-rending tales of the gloomy forest, in the compass of nature's works surpassing those of the forest.

The emigrant to an unsettled country, looks upon trees as so many savage enemies which he must conquer and exterminate before he can hope for enjoyment of peace and tranquility. When other emigrants settle around him, and they begin to direct their united efforts towards arriving at a state of civilization, they see nothing in their mind's eye but cultivated fields, with meadows and pastures, with all the stumps eradicated, and not a single cluster of trees to interrupt the view. If a single patch is left for fire-wood, it is often sneered at, as it is cheaper to buy wood than to devote the ground to its incumbrance.

But the population increases, perhaps becomes a village or city. The demand for firewood increases, and timber is wanted in all the various departments of ship and house building, carriages and other branches of manufacture, and every patch of forest vanished before the foot-steps of cultivation, like patches of snow before the vernal sunshine, until, as is the case in some parts of this country, every piece of timber has to be brought from a great distance, if not even imported from a foreign country, and coal dug from the earth for fuel.

In this state of things, sober reflection, which though a slow, is often a correct teacher, shows us by costly lessons what it would have taught before, had it been consulted, that if instead of wastefully destroying and exterminating the forest trees, they had been used with prudent economy, when necessary, and skillfully managed and preserved, they might have contributed largely to pleasure and to profit.

But when the folly has been committed and its consequences are beginning to be sensibly felt, what remedy can be applied, if not to afford immediate relief, at least to prevent posterity from suffering by its effects? The still small voice of common sense, confirmed by the examples of several nations of Europe, points to the remedy. The first step is to apply to some well established nursery where all the most valuable trees could be obtained at moderate prices; a few would avail themselves of their advantages, and the force of example would soon excite the multitude to follow them, and in a few years, those who live to see our dwellings, which now stand as unornamented as milestones, tastefully surrounded by beautiful trees, and their value doubled in the eye of most purchasers; they would see our public roads lined with extensive rows of valuable trees, and last, though not least, our farm houses would be sheltered in their situations from bleak and destructive winds by belts of pine and fir trees, and their cattle and sheep would find protection from the blasts of winter, and places of repose from the sultry summer heat.

The uses of forest trees to which we refer, are for shade, for timber and for fuel. A tree forms part of almost every implement and every machine by which the genius of man has taught him to lighten the labor of his hand.

Of shade trees both for timber and ornament, we have indigenous, a greater variety than any other nation.

Every man of landed property that lies out of arm's length of a village or town, should plant trees. Even an old bachelor, who has no right to become a father, is not only free, but is in duty bound to plant a tree.

People are sometimes prevented from planting trees from the slowness of their growth. What a great mistake that is! a strange fear to feel, a strange complaint to to utter—that any one thing animate or inanimate, is of too slow growth, for the nearer to its perfection, the nearer to its decay. Let any one who accuses trees of laziness in growing, only keep out of sight

of them for a few years; and then returning home to them under a cloud of night, all at once open his eyes on a fine sunny summer's morning, and ask them how they have been since he and they mutually murmured farewell! He will not recognize the face on the figure of a single tree. That single maple whose top-shoot, a cow you know, browsed off, to the breaking of your heart, some four or five years ago, is now as high as the gable of the cottage, and is murmering with bees among its blossoms, quite like an old tree! What precocity! That elm hide bound, as it seemed to you, and with only one arm that it could hardly lift from its side, is now a Briarius. Is that the larch you used to hop on? now almost fit to be a mast of one of the cutters or yachts of the Hudson! you thought you would never have forgotten the triangle of the three birches; but you stare at them now as if they had dropped from the clouds! and that birch—that round hill of leaves—is not the same shabby shrub you left sticking in the gravel, why, call the old gardener hither and swear him to its identity on the Bible.

Pokeepsie, April 5th, 1865.

CURIOSITIES OF VEGETATION.—No. II.

Among the most remarkable and beautiful specimens of our own vegetation, we may reckon the Magnolia Grandiflora. It bears flowers seven or eight inches in diameter, and of a fragrance sufficient to load the surrounding atmosphere with sweets. This superb tree has not unfrequently a straight trunk ninety feet in height, with a fine pyramidal head of foliage and white blossoms.

The Agave Americana, when it is fully grown, sends up a gigantic flower-stem, which rises from thirty to forty feet high. The topmost fifteen feet of this stem often bears hundreds of greenish-white flowers, growing at the extremities of branches symmetrically arranged around this huge stalk.

The Talipot Tree, peculiar to Ceylon and the Malabar coast, grows to a great height, and sends forth its branchless leaves from its summit. These leaves, when on the tree, are nearly circular, and from thirty to forty feet in circumference, so that ten or a dozen men can find shelter under one of them. They are of a dark green color when expanded, and can be closed and opened like a fan. They are used as a shelter against rain and heat, as a covering for tents, as fans, and as paper. The flower shoots pyramidically above the leaves, and often adds thirty feet to the height of the tree. It is at first a cluster of bright yellow blossoms, of pungent odor, and bursts from its hard enveloping rind with a sharp noise.

The Erythroxylon Coca is a shrub from six to eight feet high, with numerous small white flowers, and greatly resembles a straight-growing black-thorn bush. The leaves are used by the inhabitants of Peru for their peculiar effects upon the nervous system. Masticating the Coca leaf, the Peruvian, when inveterately addicted to this indulgence, remains in the forest for two or three days, heedless of night, or of the tremendous storms that sweep over him. At length he returns home, pallid and trembling, to recover from his intoxication only to yield again to the fascinations of his indulgence, until premature death closes his wretched career. The leaves are chewed with finely powdered lime. The consumption of Coca is universal in Peru.

The Cerbera Tanghien, or Tanghien Tree, resembles a plum, and is used in Madagascar to detect criminals. Its fruit is a swift and deadly poison. When employed as a test of crime, the accused is made to eat as much boiled rice as possible, and to swallow several pieces of the skin of a

fowl, without masticating them. A quantity of the tanghien nut, mixed with the juice of the banana, is then administered. Curses are then denounced on the person undergoing the ordeal, if guilty. Rice water is given soon after, in copious draughts, till vomiting ensues, and then, if the several pieces of skin are found, the accused is acquitted, but if they are not found, he is condemned. There is plenty of room for jugglery in this ordeal, and the administrators can make it fatal or not, as they please.

The Antiaris Toxicaria, or Upas Tree of the Indian Archipelago, sometimes attains one hundred feet in height, and eighteen in circumference near the base. It is generally straight, and has a smooth white bark. The fruit is velvety, and not unlike a purple plum. The tree is found in fertile spots, and is not avoided by animals as has been stated, for lizards and insects have been seen upon its trunk, and birds upon its branches. But in clearing grounds near this tree, the inhabitants do not like to approach it because it produces a cutaneous eruption when newly felled. The juice of the Upas is prepared by the natives in a peculiar manner, and used to poison their arrows.

The Araucaria Imbricata, of the Patagonian Andes, is thus described by a traveler: "When we arrived at the first arancarias the sun had just set; still, some time remained for their examination. What first struck our attention was the thick roots of these trees, which lie spread over the stony and nearly naked soil like gigantic serpents, two or three feet in thickness; they are clothed in the same rough bark as the lofty pillar-like trunks, which are from fifty to a hundred feet in height. The crown of foliage occupies only about the upper quarter of the stem, and resembles a large depressed cone. The lower branches, eight or twelve in number, form a circle around the trunk; they diminish till there are but four or six in a ring, and are of a most regular formation, all spreading out horizontally, and turned up at the tips. They are covered with leaves like scales, sharp pointed, above an inch broad, and of such a hard texture that it requires a sharp knife to cut them from the parent branch.

"Its fruits, placed at the end of the boughs, are quite round, and about as big as a man's head, and consist of beautiful layers of scales that cover the seeds, which are the most important part of this truly noble tree.

"A single fruit contains between two and three hundred kernels, and there are frequently twenty or thirty fruits on one tree; and as even a hearty eater among the indians cannot (except he be deprived of every other kind of sustenance), consume more than two hundred kernels a day, it is easily seen that eighteen Araucarias will maintain a single person for a whole year."

The Stagmaria Vernicifera, or Varnish Tree, is a native of the Eastern Archipelago, and attains a considerable size. The leaves are smooth and shining and the flowers white. A resin exudes from the bark, which blisters the skin; this resin soon becomes hard and black, and is sold at a high price for varnish. It is said that this tree produces the famous Japan lacker.

Trees yielding vegetable soap are found in the tropical parts both of the Old and New World. In the East Indies soapberries are to be bought in every bazaar. The fleshy part of these berries is viscid and assumes a shining, semi-transparent appearance in drying. They form a lather when rubbed with water. The bark and roots of the plants yielding these berries possess similar properties.

The Croton Sebiferum, or Tallow Tree, is a native of China, and resembles a pear tree. The trunk is short and thick, the bark smooth, the leaves dark purple, or bright red, and the blossoms yellow. The fruit is contained in a husk which opens when this fruit is ripe, and discloses three white grains about as large as a nutmeg. These yield the vegetable tallow which, when properly prepared, makes excellent candles. There are also tallow trees found in other countries.

EDITOR'S TABLE.

To Contributors and Others.—Address all Communications, for the Editorial and publishing departments, to Geo. E. & F. W. Woodward, 37 Park Row, New York.

Woodward's Graperies and Horticultural Buildings now published and ready for delivery; price $1.50, post-paid by mail.

This work contains above 60 illustrations of the various forms of Horticultural Buildings, and gives complete practical instructions relative to design, construction, heating, ventilation, &c. A book for everybody who contemplates erecting glass structures and extending their enjoyment of Horticultural pursuits.

Death of Dr. Geo. Pepper Norris.—We regret to learn of the death of this distinguished horticulturist, which took place at his residence near Wilmington, Del., on the 7th of March, of typhus fever, contracted in discharge of his medical duties, in the early prime of manhood, amid the regret and sorrow of the community in which he lived. Dr. Norris is well known to many of our readers as a frequent contributor to the Horticulturist on "Orchard House Culture," "Cold Graperies," &c., and has done much to make them popular.

Fruit Boxes.—Those who raise the small fruits for the great markets of New York, Philadelphia, and other large cities, have long felt the need of a low-priced box that shall serve the purpose of transporting the fruit, and that may be sold and delivered with its contents; and the consumer here who, oftentimes, buys fruit only when he sees it, has wished for some convenient manner by which he can carry it home. What is true of everything else in New York is equally true in regard to fruit. Let the quality be fine, and the appearance magnificent, and it matters little what the price may be. Strawberries, or berries of any kind, put up in neat clean boxes of reliable measure, sent to this market and sold with the box, will pay the producer a better profit, box and contents, than the same fruit marketed in a stained, sour, filthy box, that all the season through is an annoyance and a loss to the grower, by breakage, miscarriage, expenses of return, and many other misfortunes.

We have received from Mr. Edmund Morris, of Burlington, N. J., author of "Ten Acres Enough," and of several admirable articles in our own columns, samples of a fruit box of his own invention, pint and quart, which admirably solves this hitherto intricate problem. Compact packing, ventilation, strength and low price are fully provided for, and as Mr. Morris is a practical man in the berry business, he knows precisely what is wanted, and we believe has fully met the want. They are so contrived that they may be packed "in the flat," by which great numbers occupy little space, and can be forwarded cheaply to any part of the country, when they are readily put together by any member of the family. We understand arrangements have been made to manufacture them in large quantities. Those who are interested in such matters can see samples at this office.

The article on "*Growing Cranberries*," in our last number, credited to the *Germantown Telegraph*, first appeared in the *Boston Cultivator*, the editor of which prepared the article with much care, and after a personal visit.—"Honor to whom honor is due."

RAISING SEEDLINGS.—"Affected two or three years with the grape fever, and never *saw* the HORTICULTURIST till last January." Prodigious! can it be possible? Here at least is an honest man, and I offer him my hand grapeiously.

I am an old admirer and reader of your journal, and have added many subscribers to your list, *con amore*, but in all my solicitations I have never found a man who would acknowledge that he never *saw* it. All read it. Most of them *took* it, and thought it a "good thing." "But," says I, "you have not seen the May number? you know my facilities, etc., and I have brought it over to show you the marvelous improvements of Lackland's house," and thus I come away with the $2.50 each from X. and Y., which is herein inclosed. It is rather mortifying to think that an individual on the frontier (none of my neighbors would do such a thing: they are all "honorable men") should pay over his money so readily, because he was caught in a *suppressio veri*. But to the point. If Dr. Merrick lived ten miles from here, instead of several hundred, I would furnish him with thousands of young grape plants—Isabella, Catawba, Concord, Creveling, *et id omne genus*. They spring up all over my grounds—in the grape-house, hot beds, and in pots—or wherever I use compost. Last fall, when I made my wine, I directed that the marc should be placed on my compost-heap. It was afterwards turned over, and became thoroughly incorporated, exposed to the *frosts of winter*, and thus prepared to vegetate with the early warmth of spring. Hence the young seedlings, so abundant as to have become absolute weeds to be hoed up. Judging from my own experience, the seeds all grow—not here and there—but *everywhere* at once. I have *planted* grape-seeds of many sorts, and whole grapes in pots, with bottom heat and otherwise. In 1863 I had five seeds germinate. In 1864, none. In 1865, thus far, one!

Hopefully yours,

WILLIE MAY.

near Dover, Del., *May*, 1865.

THERE will not be more than a fourth of a crop of Peaches in this (Kent) county, and this is the great peach-growing part of the State. I have had the Delaware grape from about the first, and it has given me a crop of nice fruit every year—and so has the Concord and Hartford Prolific. I have tried all the new kinds that have been sent out for several years, and find them worthless, except those above named. I fruited the Bland or Powell last year, and to my taste consider it better than any of the new grapes, and it is more sure here than Catawba or Isabella. I see the wise grape-men say that Union Village and Ontario are the same. Not so with me—quite different—both bad.

Yours, P. H.

BUFFALO, April 17, 1865.

MESSRS. WOODWARD:

I have a peach farm in Delaware, and our great want there is a suitable apparatus for drying fruit. Can you say or do anything on this head in your May number? N. A. H.

[Will some one give the needed information.—EDS.]

THE CENTRAL PARK.—On visiting the Central Park, early in May,—our first visit since the opening of the Spring,—we were struck with the evidences of the severity of the past winter, especially as it affected the evergreens, of various kinds. The tender wood and sprays of the Pine and Spruce tribes seem to have been essentially damaged by the frost, and many of the finest of these trees were as brown and sere as if they had just passed through a severe latter summer drought. We have since noticed the same effects upon the evergreens scattered throughout the city, and particularly upon the English Ivy upon the walls of several of our city churches and private dwellings.

The evergreen trees will gradually recover, but it will be some weeks, perhaps, be-

fore they will regain their usual healthy and luxuriant appearance, while their annual growth will undoubtedly be diminished by these damages, The Ivy has, in many places, been partially killed, down to the roots, and will be forced to make new wood. It would seem that the past winter has been unusually severe in this respect.

Robert Herrick was a lyric poet of great eminence, who lived in the seventeenth century, in the time of Charles the First. We lately came across the following sweet and tender lines which we copy for our readers.

THE DAFFODILS.

Fair Daffodils, we weep to see
You haste away so soon;
As yet the early rising sun
Has not attained his noon.
Stay, Stay,
Until the hastening day
Has run
But to the even-song;
And having prayed together, we
Will go with you along!

We have short time to stay as you;
We have as short a spring;
As quick a growth to meet decay
As you or anything;
We die
As your hours do; and dry
Away
Like to the summer's rain,
Or as the pearls of morning dew,
Ne'er to be formed again.

Pests of the Farm.—It is not weeds, worms, blight, nor bug, that prove the greatest pests of the farm. Even a sheep-killing dog can be endured once in a while. Book peddlers and subscription agents are mild pests, compared with some of the tree peddling variety. The West has been terribly afflicted in this respect. The veriest trash of Eastern nurseries has been sold as first-class, at first-class prices. But that is not the worst of it. A farmer subscribes for a Delaware grape-vine, gets one so labeled, which, after nursing three years, proves to be the most worthless thing in the whole catalogue. At the present time the farmers of Vermont are being fleeced by scoundrels who are selling apple trees grafted upon crab stock, warranted to withstand the Winter and all the diseases that have killed off orchards in that State, and to produce marvelous crops of apples upon these "dwarfed trees." The white willow humbug has drawn a quarter of a million dollars out of farmers' pockets into those of the peddlers.

Another most prolific pest is him of the patent churn: a machine with crank and wheels, and paddles and air tubes, that will convert the entire milk into butter and give more pounds than were put into the butter mill, and of vastly a better quality than any other contrivance yet invented. The farmer, tired of the old dasher, buys the thing of cranks and wheels, gives it a patient trial and consigns it to the garret or some other old lumber receptacle. Our advice is, whenever churns are offered that will make butter in three minutes and some odd seconds, that it would be the safest plan to consign them to the lumber hole without trial.

The wine plant man is another pest that farmers should set the dogs upon, the moment he opens his mouth. He has nothing in this world to sell you, except some toes, or offsets of the rhubarb, or pie-plant roots, which you have already growing in your garden, and which you may increase by propagation to any desirable extent, if you desire to grow the stalks for the purpose of making a beverage by courtesy called wine. It is no better wine than you can make of the acid juice of any fruit, and there is nothing that we know of that is used for this purpose that does not make a healthier drink than this notorious "wine plant." The reason is that the acid of rhubarb stalks is oxalic; of grapes, tartaric; of apples and tomato, malic; of currants, gooseberries, raspberries, strawberries, citric and malic combined. All of these acids are more wholesome than oxalic. The only really wholesome wine is pure grape juice. The next most wholesome beverage is pure juice of sound apples, well

fermented and corked tight to prevent it from passing into ascetic acid, which, although not unwholesome in small quantities, as we use vinegar, would be so if taken in quantities as cider and wine is drank. So with wine made of rhubarb juice—water, oxalic acid and sugar—fermented until the sugar is converted into alcohol, may be used in moderate quantity without serious injury; but if drank freely as grape wine or cider, the effect would undoubtedly be deleterious. It will be the same with all the other concoctions of fruit juice and sugar. Let them be used in great moderation, or they will prove pests of the farm.—*Tribune.*

Strawberries.—Three great traveler's dishes of strawberries are in my mind.

The first was at an inn in the quaint Dutch town of Broek: I can see now the heaped dish of mammoth crimson berries,—the mug of lucious cream standing sentry,—the round red cheese upon its platter,—the tidy hostess, with arms akimbo, looking proudly on it all: the leaves flutter idly at the latticed window, through which I see wide stretches of level meadow,—broad-armed windmills flapping their sails leisurely,—cattle lying in lazy groups under the shade of scattered trees; and there is no sound to break the June stillness, except the buzzing of the bees that are feeding upon the blossoms of the linden which overhangs the inn.

I thought I had never eaten finer berries than the Dutch berries.

The second dish was at the Douglas Hotel in the city of Edinboro'; a most respectable British tavern, with a heavy solid sideboard in its parlor; heavy solid silver upon its table; heavy and solid chairs with cushions of shining mohair; a heavy and solid figure of a landlord; and heavy and solid figures in the reckoning.

The berries were magnificent; served upon quaint old India-china, with stems upon them, and to be eaten as one might eat a fig, with successive bites, and successive dips in the sugar. The Scotch fruit was acid, I must admit, but the size was monumental. I wonder if the stout landlord is living yet, and if the little pony that whisked me away to Salisbury crag, is still nibbling his vetches in the meadow by Holyrood?

The third dish was in Switzerland, in the month of October. I had crossed that day the Scheideck from Meyringen, had threaded the valley of Grindelwald, and had just accomplished the first lift of the Wengern Alp—tired and thirsty—when a little peasant girl appeared with a tray of blue saucers, brimming with Alpine berries—so sweet, so musky, so remembered, that I never eat one now but the great valley of Grindelwald, with its sapphire show of glaciers, its guardian peaks, and its low meadows flashing green, is rolled out before me like a map.

—*My Farm of Edgewood.*

The Old Orchards.—It saddens the thoughtful man who travels through the country—especially the older settled sections—to see the grand old orchards, which have furnished the cellars of the old homesteads with cider and fruit from the early time, dying of old age, with no thrifty young orchards about them—to see the broken limbs, the dying and dead trunks, the scarred and diseased veterans passing away with no young recruits coming after to make glad the succeeding generation.

What can the old folks be thinking about? What are the middle-aged inheritors of the old homestead or its old orchards, sleeping over, that they neglect a positive duty, (to say nothing of the profitable investment of family funds,) to their children? Is it the selfish spirit which has possession of you—the spirit which says, "The old orchard will furnish fruit as long as I live, let my children take care of themselves?" Then you do not deserve the ministrations of the young in your old age, when your eyes grow dim and your limbs palsied. No, no, we can not believe that it is positive indifference to the welfare of your children. But is not the thoughtlessness which permits the old

orchard to die without supplying their places with young ones criminal? Is there any feature of a homestead to which are attached so many pleasant associations as to the Orchards? It is the paradise of the young and the delight of the old. Each tree has its associated event. The fruit of each tree has impressed its outline and flavor, its texture and color, upon your boy, and he recalls these peculiarities as he turns the prairie furrow, crushes quartz in California, traffics with the Japanese, or fights for the Union in our armies. How strong a knot has the old orchard tied in his heart, binding him to the old home and the hearts that dwell there. The birds sing to him out of the orchard. The May-blossoms breathe their fragrance into his nostrils—the Spitzenbergs and Pippins, the Harvest Boughs and Greenings, and the peculiar and luscious "natural fruit," that grew on a seedling too good to graft, laugh at him as they show their cheeks from behind their emerald screens—and oh! how he longs to visit the home of his childhood and live over again the days of his youth. Such is our inheritance, reader! Such the patrimony which comes down to us from the orchards of our fathers, no matter where we may be settled, or where we may wander. Would we part with this birthright? Would we deprive our children of it?—or our children's children? If not, new orchards must be planted. The old ones are passing away.

As we wrote in the outset, it is saddening and astonishing that people who have lived so long in the world and enjoyed the fruit of their labors, and of the labors of their fathers, should be so indifferent to this matter of renewing the orchard. It is the season to prepare for next spring's planting. The young men who have asked us how to prepare land for orchard planting may now do this work well. Plow and subsoil the land to be occupied, thoroughly. Do not forget—*subsoil* it. Let it lie until spring and again plough it, (or pulverize it in some manner,) manure it with good compost thoroughly incorporated with the soil, if it needs it, and then plant. Don't plant a young orchard in the sod. Do not allow any sward to make around your trees so long as you and they live. Cultivate them as you do corn and they will yield you far greater profit in proportion to the labor bestowed.

But the object of this article is to impress the importance of providing substitutes—young, healthy, and full of vitality—for the maimed, scarred and dying veterans in the old orchards.—*Rural New Yorker.*

Sumac.—Its Use, Varieties, Production and Value.—Can it be Profitably Cultivated?—"Why cannot we raise our own Sumac?" asks *The Gardener's Monthly.* Sure enough, why not? It says that Sicilian Sumac has lately been "$250 a tun, and scarce at that."

"The species from which the sumac of commerce is obtained is a native of the south of France and the Mediterranean coast—the *Rhus coriaria*, or leather sumac of the botanists. We do not know that the plant has ever been tested to endure our climate. If it has been introduced here it is not in any collection of trees we know of now, which would indicate that it will die out, and is unfit for our climate. So many things from the Mediterranean live here, that one would suppose there would be no difficulty with it; but the Rhus family is a capricious one in this respect. The *Rhus cotinus*, from Central Asia—the common mist tree of our gardens—is quite hardy in our severest winters; while the *Rhus succedaneum*, from a part of Japan, whence we get so many hardy things, will not live here in quite mild seasons. It is worth while for some one in the leather interest to reimport some seeds, at any rate, and try the leather sumac fairly.

"Our Rhus family ought to have a good overhauling about their economic uses. All over the globe they have been turned to good account. Other countries have but a few species compared with ours. We have

ten distinct species in the United States, besides many varieties.

"The mist tree, heretofore referred to, has wood which dyes of a beautiful yellow color. This wood is, in the 'drug language' of Europe, 'young fustic'—the true fustic being allied to our osage orange. The 'mist' of the tree, while yet succulent, is very astringent, and might be turned to useful purposes. The celebrated Japan varnish is made from the *Rhus vernicifera*; but it is now clearly ascertained that this tree is nearly identical in all its properties with the *Rhus venenata* of our country,—the Poison-Ash, or Swamp Sumac, too well known to many of us by its virulent properties, and the more likely on this account to be of vast service when turned to proper uses.

"The *Rhus typhinum* (Stagshorn Sumac) has actually been employed for tanning purposes in times past; and that it has fallen into disuse is, we imagine, only that the foreign product of *R. coriaria* could be imported cheaper than our own could be collected. Though spread over the whole United States, from Canada to Florida, it is not abundant, we believe, in any one locality; but, as it will grow in the poorest waste places, among rock, stones, etc., where little else will, if found to be what is wanted, it would be a good paying crop to grow.

"The common dwarf Sumac, which is so abundant over the whole Union, on every barren hill and rocky glen, and which gives our landscape scenery, in the fall, such renowned and matchless beauty, is the *R. glabra*, or *R. elegans*, of some old botanists. This has also been employed in tanning; but not, we believe, so effectively as the others,—careful experiments might find it more useful than now supposed. Other economic uses might be found for this plant besides tanning purposes. A beautiful black ink-like tincture can be made from the wood boiled with the berries; and from the berries themselves, a beautiful red dye can be prepared. The acid contained in the berries is supposed to be bimalate of lime.

"*Rhus copallinum*, or Copal Rhus, by its name might be supposed to have some relation to the varnish producing species; but we are not aware that it is particularly favored in this way, and suppose its name is rather in reference to its shining leaves, which appear as if varnished. It may be worth looking after, however, by those disposed to investigate the virtues of the Rhus family. By the way, we may here correct one of the hundreds of errors in Wood's, otherwise very useful 'class book.' He says, *Rhus pumila*, of Michaux, is from one to two feet high; and that *R. copallina* is not 'half the height' of *C. pumila*. The Copal Rhus in low rich grounds grow from eight to ten feet high; and in the dry, poor sandy soils of New Jersey, where it abounds, it is usually from two to four feet.

"The whole tribe is rich in gums. The celebrated 'Hog Gum' of West India Islands, is from *Rhus metopium*, and the Japan Wax is from *Rhus succedanium*,—both too tender for the Middle States; but will no doubt 'come into play' when the labor question in the Southern States has full play to develop itself.

"Probably the *Rhus aromatica* of the South-western States, and the *Rhus laurinia* of California, will also prove profitably ceriferous,—but we can merely throw out the hint."—*Tribune.*

"Facts about Peat," a neatly-printed work in paper covers, by T. H. Leavitt, published by Leavitt & Hunnewell. Boston: Price one dollar.

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